SYSTEM AND METHOD FOR REMOTE DATA ACQUISITION, MONITORING AND CONTROL

ABSTRACT OF THE DISCLOSURE

A system comprises a remotely situated plurality of sensors that sense information; a locally situated workstation that receives the information from the remotely situated plurality of sensors in the form of a set of data; and a Fast Fourier Transform (FFT) analyzer interfaced with the plurality of sensors and workstation to receive information from the plurality of sensors in the form of time domain data points, to transform the data points into a lesser number of frequency domain data points to facilitate transmission as a set of data from the plurality of sensors to the locally situated workstation. Another system comprises a remotely situated sensor that senses information; a remotely situated data acquisition system interfaced with the sensor to receive data from the sensor; a Fast Fourier Transform (FFT) analyzer interfaced with the sensor in parallel with the data acquisition system to receive information from the sensor in the form of time domain data points and to transform the data points into a lesser number of frequency domain data points to facilitate transmission; and a locally situated workstation that receives the data from the data acquisition system, that receives the frequency domain data points from the FFT analyzer and that controls the sensor via input in response to the data and data points.A method comprises remotely monitoring an operating test object with a plurality of sensors to generate time domain data points; remotely transforming the time domain data points to frequency domain data points with a Fast Fourier Transform (FFT) analyzer; and transmitting the frequency domain data points to a local workstation.